CLAIMS

1. An electronic device, comprising:

a body of semiconductor material having a first and a second face;

a covering structure, covering said first face; and,

a heat dissipation region, in direct contact with said second face.

2. The electronic device of Claim 1, wherein said heat dissipation region and said second face of said body have equal area.

3. The electronic device of Claim 1, wherein said heat dissipation region is of metal, preferably of copper.

4. The electronic device according to claim 3, wherein said heat dissipation region has a thickness of 50 to 200 μm.

5. The electronic device according to claim 1, wherein said covering structure comprises a passivation region and a protective region of a polymer material.

6. The electronic device of Claim 5, wherein said polymer material comprises polyimide.

7. The electronic device of Claim 5, wherein said polymer material comprises "SU8".

8. The electronic device according to claim 5, wherein said protective region is opaque.

9. The electronic device according to claim 5, wherein said protective region has a thickness of 20 to 70 μm.

10. The electronic device according to claim 5, wherein said protective region and said passivation region have peripheral openings.

11. The electronic device of claim 10, wherein it comprises metal leads having one end extending into said peripheral openings and fixed to electrical connection regions formed in an insulating layer disposed between said body and said passivation layer.

12. A process for manufacturing an electronic device comprising the steps of:

forming a wafer, including a body of semiconductor material having first and second faces;

forming a covering structure on said first face of said body;

forming a spreader layer in direct contact with said second face of said body; and

cutting said wafer into a plurality of dice.

13. The process of claim 12, wherein said step of forming a spreader layer comprises the step of galvanically growing said spreader layer.

14. The process of claim 13, wherein said spreader layer is of metal, preferably copper.

15. The process according to claim 12, wherein said step of forming a covering structure comprises the steps of forming a passivation layer on top of said body and forming a mechanical protection layer on top of said passivation layer.

16. The process of claim 15, wherein said mechanical protection layer is of polyimide.

17. The process of claim 16, wherein said mechanical protection layer is opaque and contains fillers.

18. The process of claim 17, wherein said fillers are selected from the group containing carbon and graphite.

19. The process according to claim 15, wherein, prior to said step of forming a protective layer, first openings are formed in said passivation layer to expose electrical connection regions formed in a insulation layer extending between said body and said passivation layer and, after said step of forming a protective layer, second openings are formed in said protection layer, aligned with and in continuation of said first openings.

20. The process of claim 19, wherein, after said step of cutting, connection leads are welded to said electrical connection regions using a strip technique.

21. A method comprising:

forming, on a wafer, a plurality of semiconductor devices;

forming, by galvanic growth, a heat dissipation layer on a lower face of the wafer; and

cutting the wafer into a plurality of dice, such that each die includes one of the plurality of semiconductor devices, and that each die includes a portion of the heat dissipation layer.

22. The method of claim 21, further comprising the step of forming a covering layer on an upper surface of the wafer.

23. The method of claim 22, wherein the covering layer comprises a passivation layer and a mechanical protection layer.

24. The method of claim 22, wherein the upper surface of the wafer comprises a plurality of electrical contact pads associated with the plurality of semiconductor devices, and the covering layer comprises openings for providing access to the plurality of electrical contact pads.

25. The method of claim 24, further comprising the step of affixing a first end of one of a plurality of leads to each one of the plurality of electrical contact pads.

26. The method of claim 25, further comprising:

affixing each of the plurality of dice to one of a plurality of ceramic bases via the portion of the heat dissipation layer, where the plurality of ceramic bases includes a plurality of electrical traces; and

affixing a second end of each one of the plurality of leads to one of the plurality of electrical traces.

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